Making Saudi Arabia ‘One & Only’ destination

by Man-made shooting star

December 2020

ALE Co., Ltd.

Company profile

Company name	**ALE Co., Ltd.**
Head office	**Tokyo, Japan**
Founder & CEO	**Dr. Lena Okajima**

Our vision

Anchor space into our culture to empower humankind to new endeavors

Our mission

Make space closer. For all of us. Together.

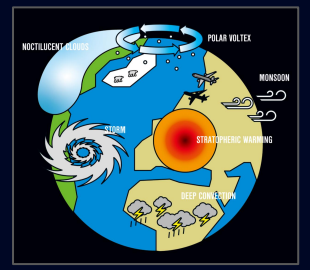
Our business activities

Space entertainment

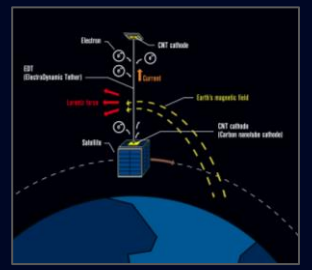
SKY CANVAS

Painting the sky with the science of shooting stars

ATMOSPHERIC DATA



SMALL SATELLITE



Sky Canvas concept movie

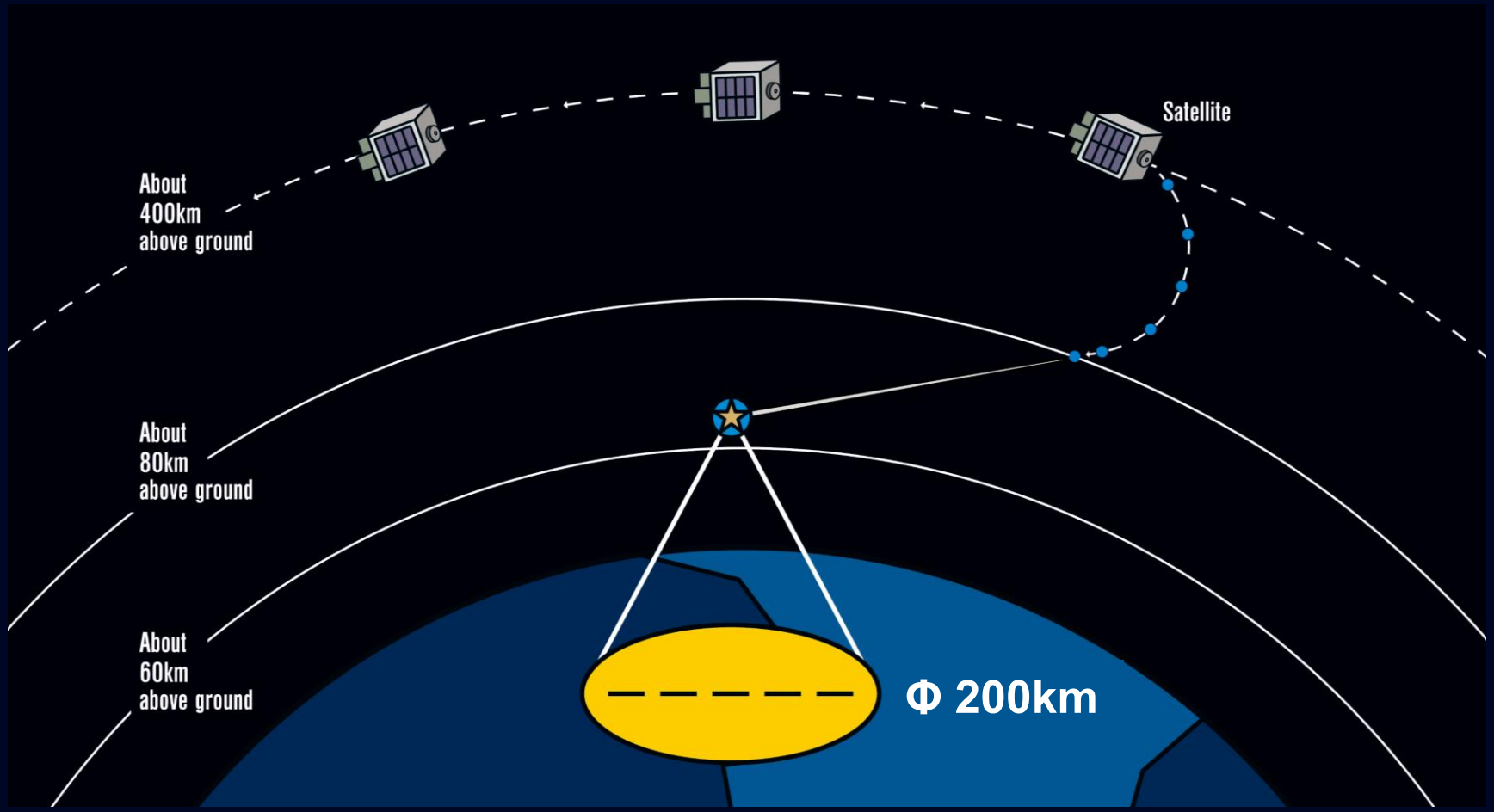
CLICK HERE to watch

Principal and timeline

1. Release meteor particles from satellite
2. Meteor particles emit light at altitudes of 60-80 km

As World`s only man-made shooting star

Sky Canvas : Begin from mid-2023



ALE Co., Ltd.

Why we focused on Saudi Arabia's tourism

1

Huge growth potential in tourism

- New tourist visa regime
- Large scale developments

2

Contribute to win the competition

- A product which will enhances both domestic and inbound markets
- Highly competitive market created by COVID-19

3

Compatibility with our product

- Launch timings of Giga-projects
- Synergisms created through Saudi-Japan Vision 2030

With Sky Canvas

1. Expanding recognitions

2. Providing unique experiences

3. Receiving positive reviews

Appendix

Company profile

Company name	**ALE Co., Ltd**
Head office	**Sumitomo Fudosan Shibadaimon-Nichome Bldg. 2F** **2-11-8 Shibadaimon Minato-ku, Tokyo 105-0012, Japan**
Founder & CEO	**Dr. Lena Okajima**
Employees	**30employees (as of April 2020)**
Nature of business	**Space entertainment (Sky Canvas)** **Atmospheric Data** **Small satellite research and development**

Message from the CEO

Anchor space into our culture to empower humankind to new endeavors

ALE's mission is to "Make space closer. For all of us. Together.“

ALE is a space startup company that I started in 2011 to create the world's first man-made shooting star. One of the driving forces of ALE is the passion to contribute towards the development of science. During my time at Tokyo University as a student majoring in astronomy, I learned scientific research in Japan was mainly funded by public funds. This made it extremely challenging for scientists and researchers to attain the budget they needed while continuing with their research. That is when it occurred to me, that if there were ways to pursue scientific research without relying on public funds, the field of science would develop more than ever. One of the solutions for doing so is what we are trying to accomplish at ALE.

In any age or time, scientific advancement has always been one of the reasons behind the significant changes that have happened in the world. Comfort and conveniences are not the only result of advancement in science and technology. Sometimes what these advancements bring into the world could be and have been harmful. However, it is also science and technology that have helped overcome those issues and problems.

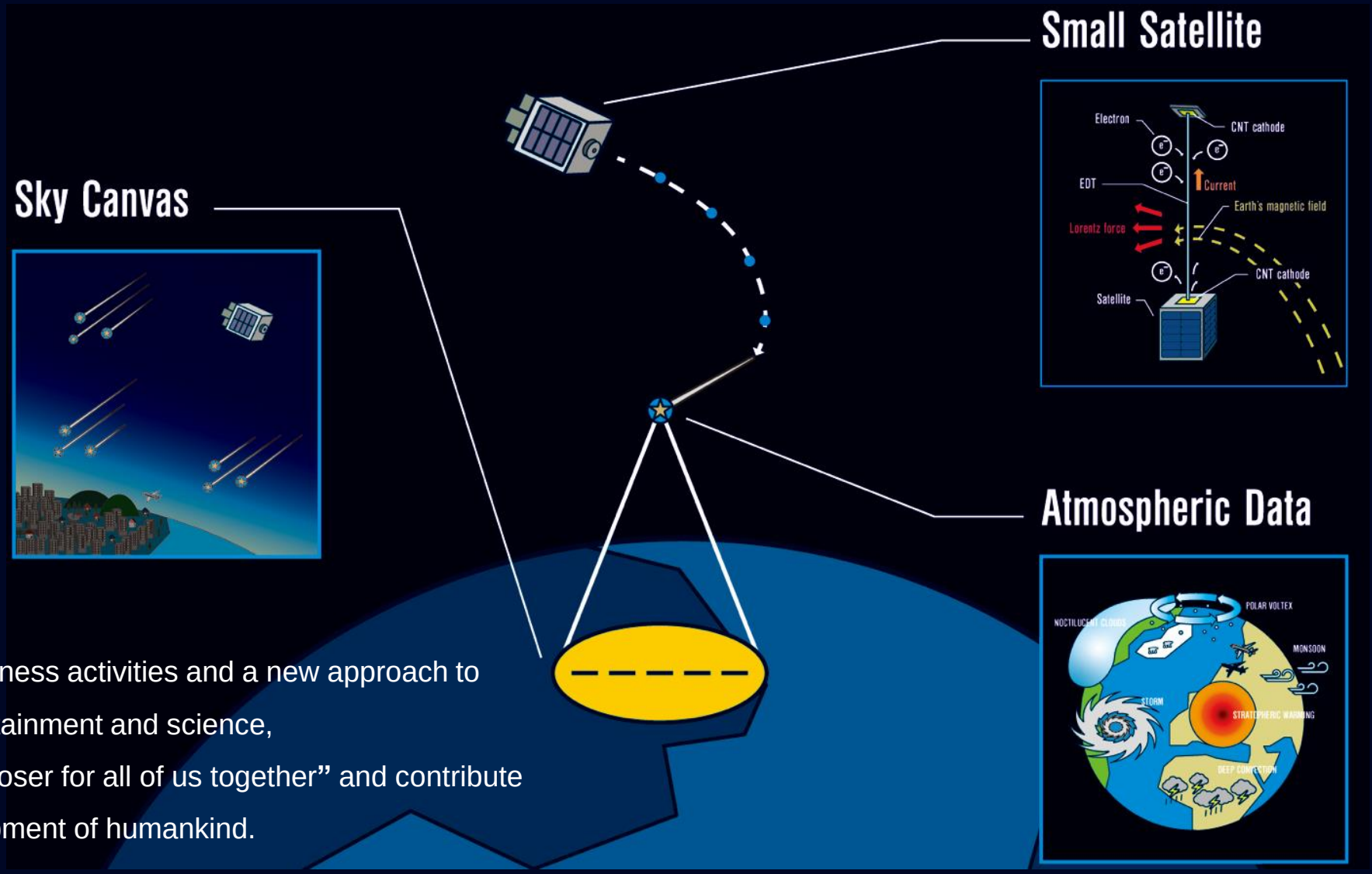
With the growing awareness of the global environment and the topic of “sustainability” becoming more common in recent years, I believe the power of science is vital more than ever now for the sustainable development of humankind. The infinite scientific knowledge, which are yet to be found in the universe, will help the development of science and humankind. Discovering, accumulating, and applying these valuable data and information from space, sharing the beauty and excitement of the universe and space, stimulating curiosity and accelerating exploration and development of science and space. Such are what I vision for us at ALE. As our first initiative towards this, we are currently working on realizing the world‘s first man-made shooting stars, offering it as an entertainment content available for many people and acquiring data on the middle atmosphere to contribute in helping understand the mechanism of global climate change, thereby sustaining humankind.

In addition, technology has been developing rapidly in recent years, and its acceleration does not seem to stop. I believe keeping up and quickly adapting to these changes and exploring the relationship between science and technology with humankind is crucial for future businesses and companies.

ALE continues to evolve on its own, taking on the challenge of creating new value and expanding its business in response to the changing times and demands. With our open innovation business structure that has remained unchanged since our founding, we will continue to find new paths driven by curiosity to enjoy the unknown while working together and co-creating with all our partners.

CEO Lena Okajima

Our business activities



Throughout our three business activities and a new approach to create value in both entertainment and science,
we aim to “make space closer for all of us together” and contribute to the sustainable development of humankind.

SKY CANVAS

Painting the sky with the science of shooting stars

By transforming the night sky into a showcase for man-made shooting stars,
Sky Canvas offers entertainment on an unprecedented scale.
Using a proprietary technology that enables satellites to create shooting stars,
people over a wide area can marvel at a stunning sight at the same time.

But Sky Canvas is more than just entertainment.
A starry sky inspires wonder, which sparks scientific curiosity,
the driving force behind humanity's progress.
The data obtained from studying the path and light emission of shooting stars
also helps shed light on the mechanisms of climate change.

Born of a meteor shower, this initiative not only helps advance
scientific knowledge but also makes space closer for all of humankind.

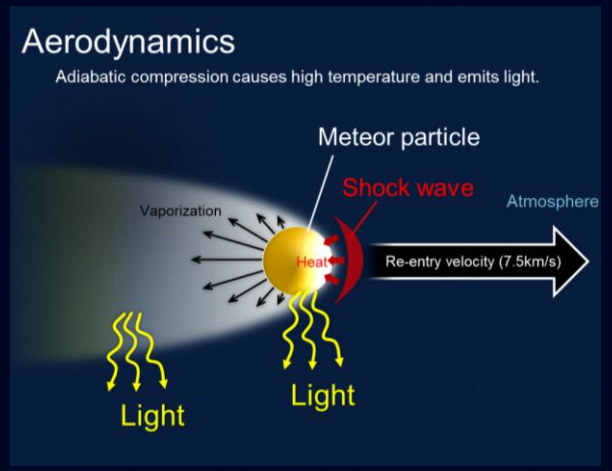
How man-made shooting stars are created

Creation of man-made shooting stars

① Launch satellite with rocket

② Release meteor particles from satellite

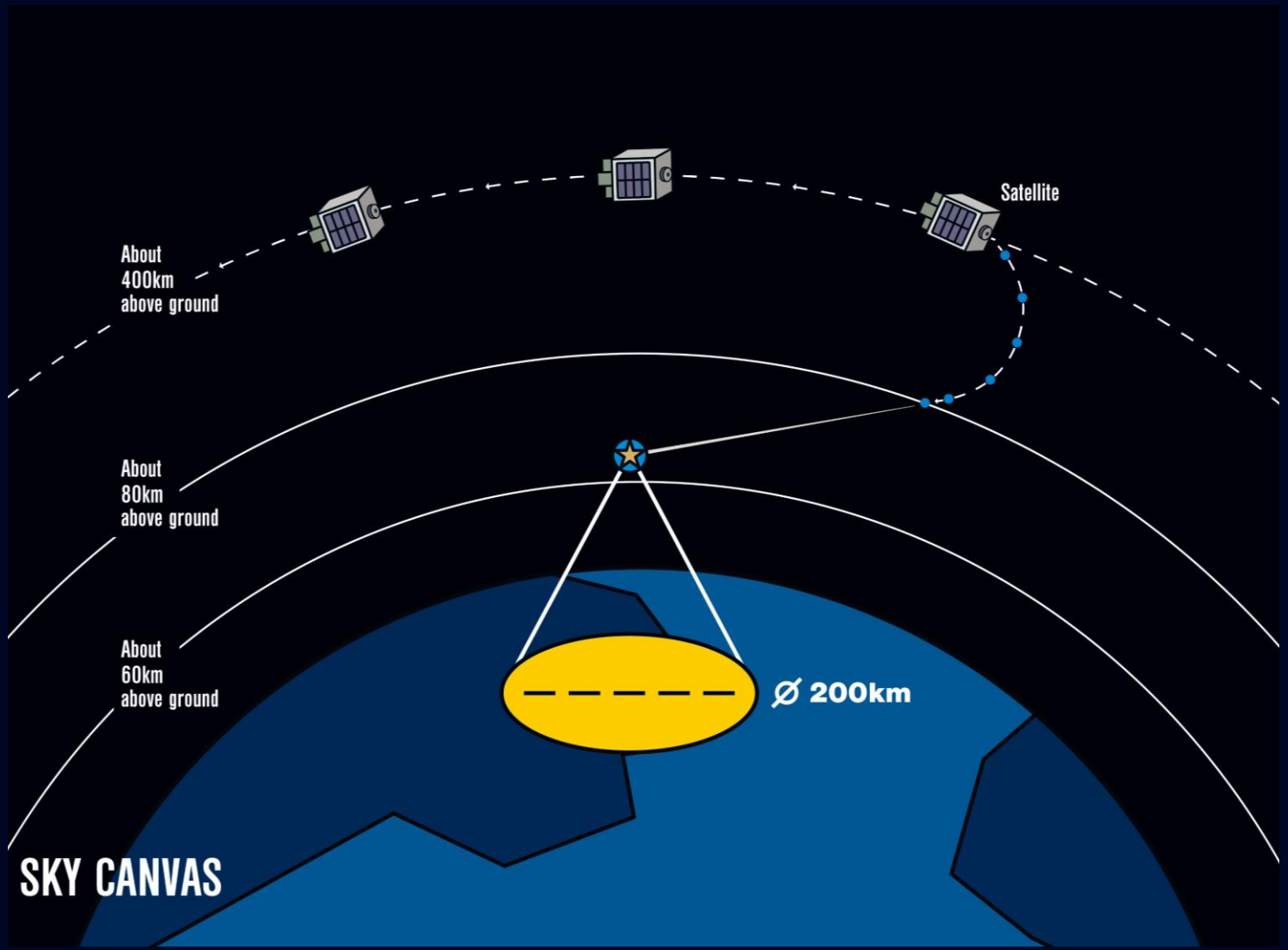
③ Meteor particles emit light at altitudes of 60-80 km



Light and visibility experiment of meteor particles

✓ Bright enough to be observed in cities.

✓ R&D on various light colors done on ground experiments.



ALE Co., Ltd.

ATMOSPHERIC DATA

Unraveling Earth’s mysteries with the science of shooting stars.

By studying the path and light emission of shooting stars,
we aim to unravel the mysteries of the middle atmosphere.
Based on over half a century of satellite-based weather forecast history,
we aim to explore new methods to observe Earth.

Leveraging our man-made shooting stars, small satellite, and plasma technology,
ALE aspires to speed up the acquisition of Earth’s weather data.
By shedding light on the mechanisms of climate change,
we hope to advance scientific knowledge and help create a sustainable world for humankind.

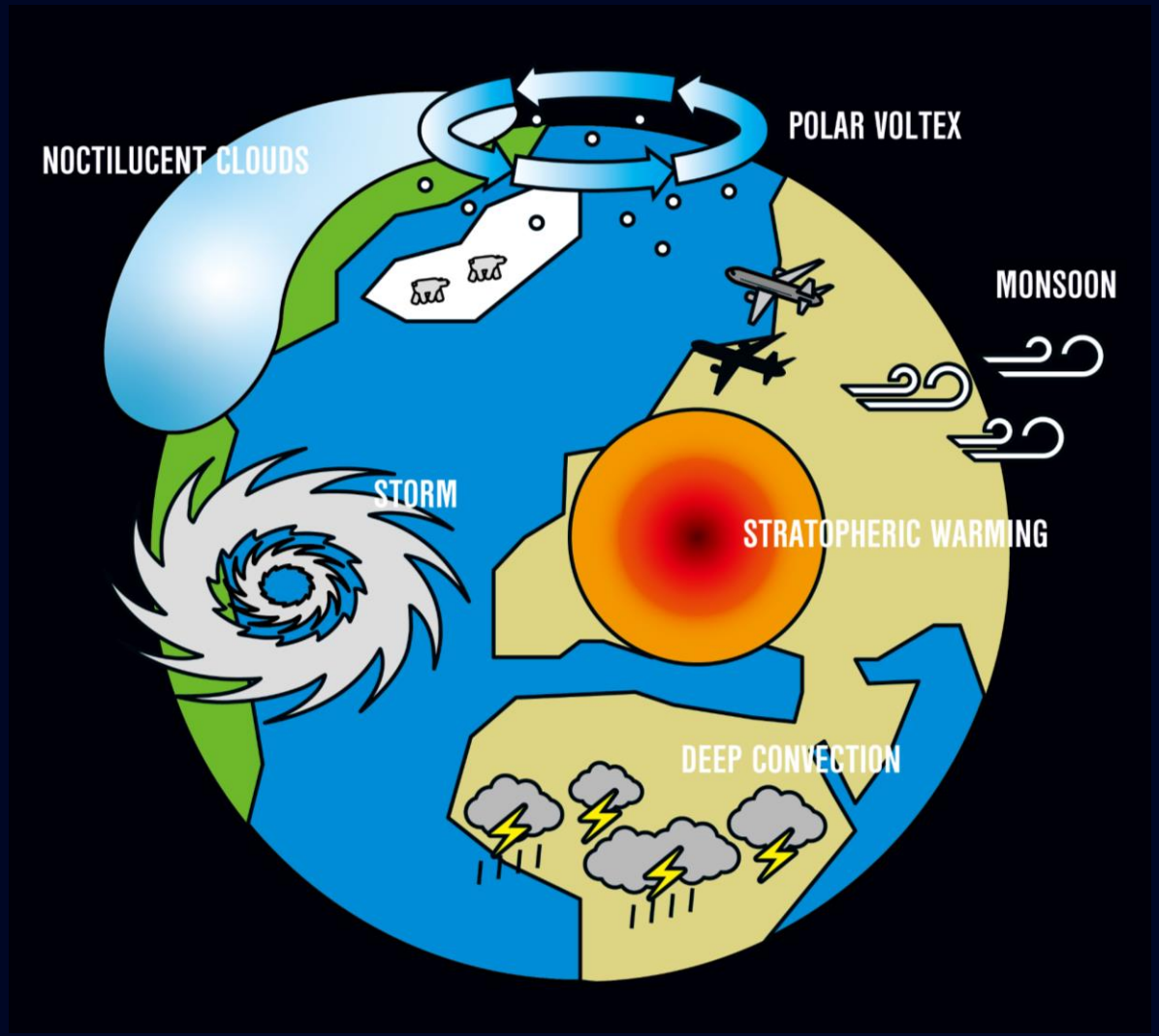
ALE Co., Ltd.

About ATMOSPHERIC DATA

Using its original man-made shooting stars, small satellites and plasma technologies, we are developing new ways to observe Earth. By studying the path and light emission of man-made shooting stars, we aim to increase the pace of obtaining data from the middle atmosphere that has been challenging in the past.

This will enable us to contribute in the improvement of weather forecast accuracy and help characterize the mechanisms behind climate change.

Subsequently, these data and analysis can help in areas such as disasters countermeasures, energy and agriculture production and logistics.

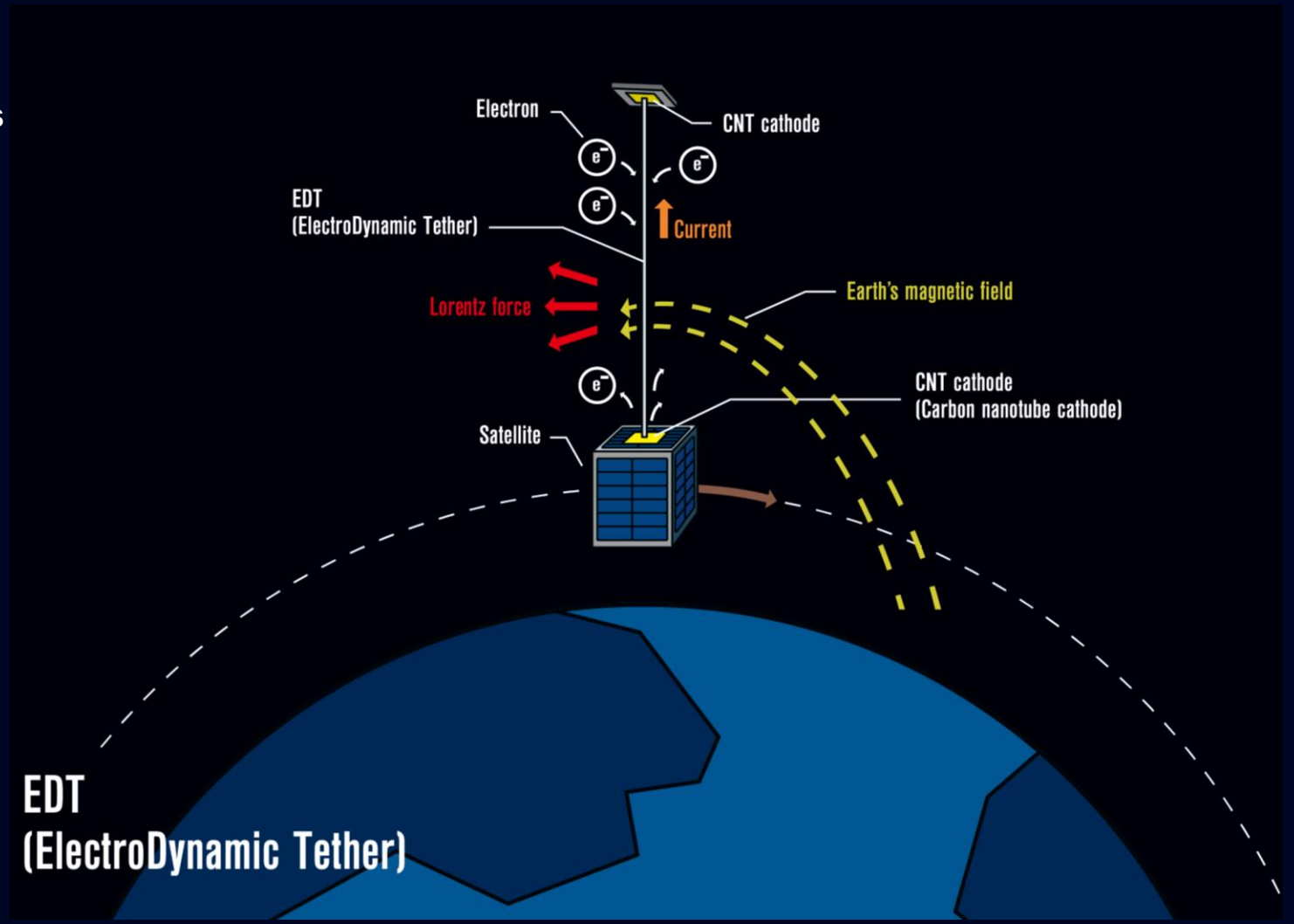


Our Small satellite technology

ALE, together with JAXA (Japan Aerospace Exploration Agency) has developed a space debris prevention device using EDT*, enabling prompt deorbit of satellites after the completion of their mission.**

- Forces satellites, rockets or other parts of spacecrafts to lower their altitude into Earth's atmosphere.

- Prevents space debris accumulation, even if the satellites, rockets and other parts of the spacecrafts loses their power supply.

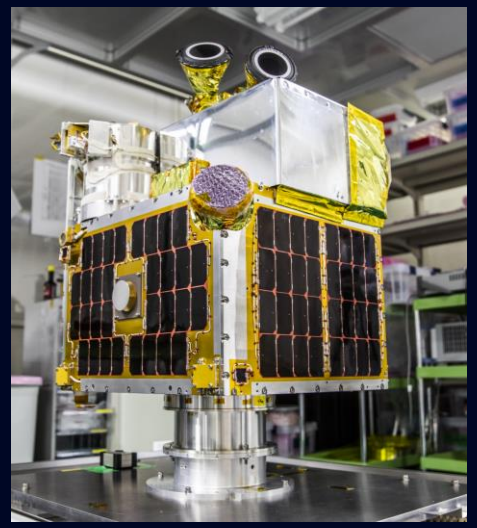


*EDT: ElectroDynamic Tether
**Application of Post-Mission Disposal, PMD.

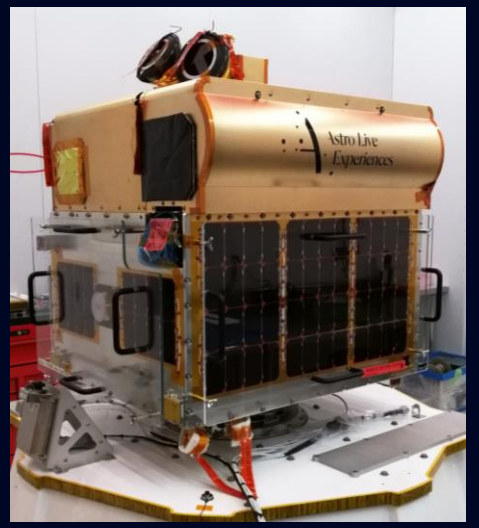
Our technology

ALE, together with Tohoku University, has developed and successfully launched two small satellite in one year*.

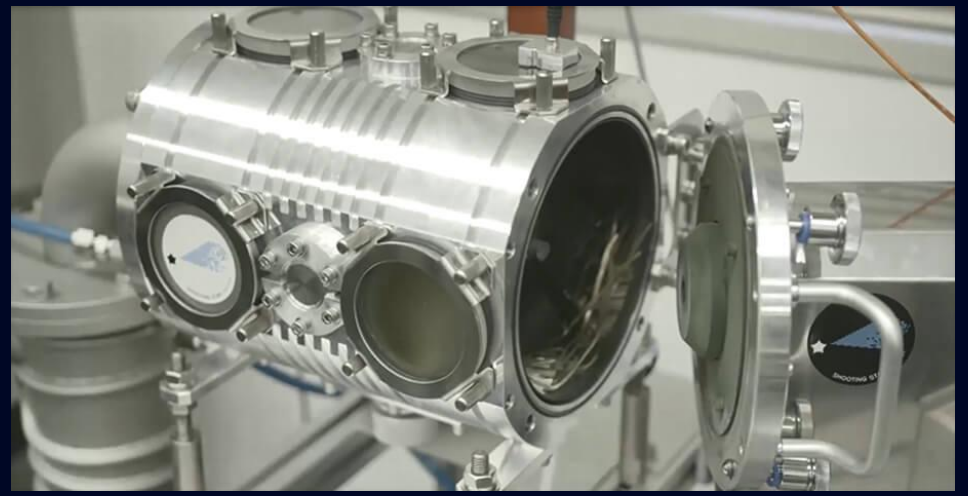
- Currently developing the third satellite under the same joint development formation.
- Meteor particles are researched and developed using a uniquely developed arc wind tunnel.
- An open innovation environment, leveraging knowledge gained internally and externally.
- A team of accomplished experts in space and non-space technology, research and develop small satellites, plasma and materials.



ALE-1



ALE-2



ALE‘s plasma wind tunnel

*2019.

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Our story

Under the night sky as the Leonid meteor shower sent shooting stars across the sky,
one woman’s curiosity led to the creation of an unprecedented idea.

This wild idea driven by curiosity one day became a big dream,
and now a step closer to reality.

Space, science and entertainment.

Gathering different experts from various fields,
ALE is a Japanese space startup with a new approach.

Exploring the Blue

A youthful curiosity that leads us far into the blue and beyond in bold pursuit of our passions.
A pioneering mindset that sees the deep blue ocean of outer space as part of our culture.
An unwavering vision of our earth as a pale blue dot among countless stars.
This is what “blue” means to us.

With our development of man-made shooting stars and the science behind it,
we want to inspire and share the idea that the future is ours to create.
Our adventurous spirit thrives on exploring the unknown
and pushes us to take a bold step toward that future.

By sparking the curiosity of people with our world-first space entertainment business
and gathering middle atmosphere data that will help shed light on climate change,
we contribute to the sustainable progress of science and humankind.

Philosophy of BLUE

Far into the BLUE

A youthful curiosity that leads us far into the blue and beyond in bold pursuit of our passions. Since ALE’s establishment in 2011, this has been our driving force. We believe that curiosity fuels the progress and evolution of humankind. In all we do, we hold firmly to this unchanging belief and embrace the unknown alongside our fellow adventurers.

Space as a BLUE ocean

A pioneering mindset that sees the deep blue ocean of outer space as part of our culture. At ALE, this way of thinking sparks passion within us, pushing people out further into the world. We believe that individuals can change the future. We want to help people truly understand this and work with them to forge a new path for humankind.

Earth as a pale BLUE dot

An unwavering vision of our earth as a pale blue dot among countless stars.
This vision reveals two things: humility at the realization of humankind's insignificance, and a belief in its endless potential, which sparks an eagerness to tackle new challenges. By holding fast to both, ALE is contributing to the sustainable development of both science and humanity.

Our vision

Anchor space into our culture to empower humankind to new endeavors

ALE aims to contribute to the sustainable development of humankind by expanding the area of human activity outside of Earth, to discover, collect, and apply the data mined from space.

Our mission

Make space closer. For all of us. Together.

Space is filled with immeasurable amounts of scientific knowledge than can help humanity maintain sustainable life on earth. With its mesmerizing beauty and infinite possibilities, space inspires human curiosity.

At ALE, we aim to create a place for people to enjoy the beauty and the possibilities of space in order to entice human curiosity and accelerate space development.

Furthermore as our first step, we aspire to use the data we've collected from space to tackle climate change here on Earth.
With effective use of both, we strive to contribute to the sustainable development of humankind.

Our values

CURIOSITY **PATHFINDER** **EVOLUTION**

Curiosity leads us everywhere we seek.

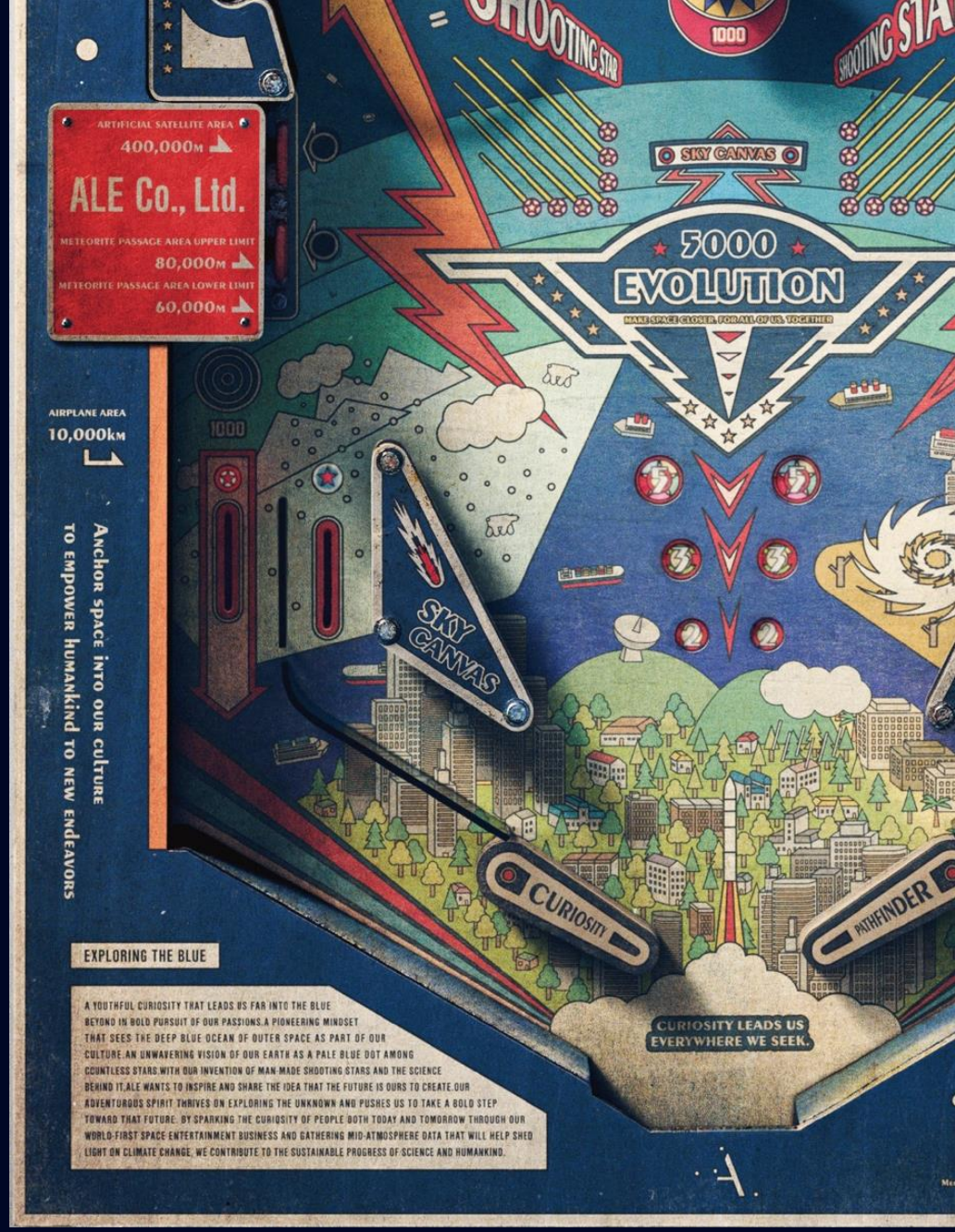
We enjoy venturing into the unknown.

Forging a new path together, as our curiosity sparks innovation.

Through our large-scale experiments,

we can set off a chain reaction that creates limitless excitement.

It is more than fun; it is pushing humanity forward.



Our history

2011 September	ALE's founder Dr. Lena Okajima establishes ALE Co.,Ltd, began research and development of man-made shooting star on her own.
2015	Opened an office in Akasaka Minato-ku, Tokyo.
	Started business commercialization of man-made shooting star technology.
2016	Increased the number of employees to 10 including engineers.
	Joint business with engineers and scientists in the field of space engineering.
2017	Selected for Japan Aerospace Exploration Agency(JAXA) Epsilon rocket.
	Increased the number of employees to 15.
2018 November	First man-made shooting star satellite ALE-1 development completed.
2019 January	Successfully launched first satellite ALE-1 on JAXA Epsilon rocket 4.
October	Second man-made shooting star satellite ALE-2 development completed.
November	Head office relocated to Shibadaimon Minato-ku, Tokyo.
December	Second satellite ALE-2 successfully launched on Rocket Lab Electron rocket.
2020 April	Increased number of employees to 30 and started development of third satellite.